

# MATERIAL SAFETY DATA SHEET



SOLARIS

DATE PREPARED: 02 01/1999

MSDS No: 3898

ORTHENE® Systemic Insect Control

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ORTHENE® Systemic Insect Control  
PRODUCT DESCRIPTION: Insecticide

### MANUFACTURER

The SOLARIS Group  
of Monsanto Company  
P.O. Box 5008  
San Ramon, CA 94583-0808

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### 24 HR. EMERGENCY TELEPHONE NUMBERS

Emergency Phone 800-225-2883

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EPA REG. NO.: 239-2461 PN: 5446-F

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS#
Acephate	9.4	30560-19-1

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Clear liquid

IMMEDIATE CONCERNS: CAUSES EYE IRRITATION

HARMFUL IF SWALLOWED

AVOID BREATHING VAPOR OR SPRAY MIST

AVOID CONTACT WITH SKIN OR CLOTHING

FLAMMABLE

KEEP OUT OF REACH OF CHILDREN

## POTENTIAL HEALTH EFFECTS

**EYES:** This substance causes moderate eye irritation as indicated by possible discomfort, tearing, swelling, redness, and blurred vision. See Toxicological Information, section 11.

**SKIN:** This substance is not expected to cause prolonged or significant skin irritation. If absorbed through the skin, this substance is considered practically non-toxic to internal organs. See Toxicological Information, section 11.

**INGESTION:** Ingestion of a toxic amount of this product can result in irritation of the digestive tract and evidence of signs and/or symptoms of cholinesterase inhibition. See Toxicological Information, section 11.

**INHALATION:** Overexposure to the vapor or spray mist may be irritating to the respiratory tract. If inhaled, this substance is considered practically non-toxic to internal organs.

**COMMENTS HEALTH:** Depending upon the extent and degree of overexposure to acephate, signs and symptoms of cholinesterase inhibition can result following either ingestion, skin contact or inhalation routes of exposure. Signs and symptoms of cholinesterase inhibition can also result from either acute (one time), subchronic (repeated short-term) and chronic (daily life-time) exposure to the product.

Signs and symptoms of cholinesterase inhibition usually occur within 12 hours following overexposure. These effects may include, but may not be limited to, headache, dizziness, weakness, nausea, vomiting, diarrhea, constriction of the pupil of the eye, blurred or dark vision, excessive salivation or nasal discharge, profuse sweating and abdominal cramps. Incontinence, unconsciousness, convulsions and breathing difficulties are indicative of severe poisoning. In untreated severe poisoning, death is due to respiratory failure or cardiac arrest.

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## 4. FIRST AID MEASURES

**EYES:** Immediately hold eyelids open and flush eyes with fresh water for at least 15 minutes. Remove contact lenses if worn. Get medical attention immediately.

**SKIN:** If on skin, wash with plenty of soap and water.

**INGESTION:** If swallowed contact physician, Poison Control Center, or emergency clinic before inducing vomiting. Give water or milk to drink and induce vomiting by touching back of throat with finger, or by administering syrup of ipecac. Do not induce vomiting or give anything by mouth to an unconscious person. If medical advice cannot be obtained, take person and product container to the nearest medical emergency treatment facility.

**INHALATION:** If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

**NOTES TO PHYSICIAN:** This material contains a cholinesterase inhibitor.

Measurement of blood cholinesterase activity may be useful in monitoring exposure. If signs and/or symptoms of cholinesterase inhibition appear, atropine sulfate is antidotal. 2-PAM (PROTOPAM) is also antidotal and may be used in conjunction with atropine but should not be used alone.

**ADDITIONAL INFORMATION:** In case of medical emergencies involving this product, call day or night, (800) 225-2883.

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## 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** 63°F TAG CC

**EXTINGUISHING MEDIA:** CO2, dry chemical, foam and water fog.

**HAZARDOUS COMBUSTION PRODUCTS:** Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and phosphorous. Incomplete combustion can produce carbon monoxide.

**FIRE FIGHTING PROCEDURES:** This product presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of normal products of combustion or oxygen deficiency. Read the entire document.

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## 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILL:** Soak up spilled material with paper towels or other absorbent material and discard in trash. Product is highly flammable. Keep all sources of ignition away from spill.

**LARGE SPILL:** Eliminate all sources of ignition in vicinity of spill or released vapor.

Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgite, bentonite or other absorbent material. Collect contaminated absorbent, place in plastic-lined metal drum and dispose of in accordance with instructions provided under Section 13 "DISPOSAL". Thoroughly scrub floor or other impervious surface with a strong industrial type detergent solution and rinse with water.

For liquid spills that soak into the ground, contact the applicable Federal, State and or County Health Dept. for disposal recommendations. If disposal is required then refer to Section 13 "DISPOSAL" for instructions.

Leaking containers should be separated from non-leakers and either the container or its contents transferred to a drum or other non-leaking container and disposed of in

accordance with instructions provided under Section 13 "Disposal". Any recovered spilled liquid should be similarly collected and disposed of.

Do not contaminate water, foodstuffs or feed by storage or disposal

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## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Avoid contamination of feed and foodstuffs. Store in a cool, dry place, preferably locked storage area.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Use this material only in well ventilated areas

### PERSONAL PROTECTION

**EYES AND FACE:** Do not get this material in your eyes. Eye contact should be avoided by wearing chemical goggles or a face shield.

**SKIN:** Wear protective clothing when handling or applying this product including long pants, long sleeved shirt, socks, shoes, and chemical resistant gloves. Wash nondisposable gloves thoroughly with soap and water before removing. Remove contaminated clothing and launder separately before reuse. Promptly and thoroughly wash hands and exposed skin with soap and water after using this product.

**RESPIRATORY:** No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standards, the use of an approved respirator is required.

### OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

<u>Chemical Name</u>	<u>EXPOSURE LIMITS</u>		
	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>ACGIH STEL</u>
Acephate	None	None	None

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Liquid

**APPEARANCE:** Clear liquid

**pH:** Not Applicable

**PERCENT VOLATILE:** No Data Available

**BOILING POINT:** No Data Available

**FREEZING POINT:** <32°F

**SOLUBILITY IN WATER:** Miscible with water.

**DENSITY:** 6.9 lbs/gal.

**VISCOSITY:** Same as water.

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## 10. STABILITY AND REACTIVITY

**STABLE:** YES

**HAZARDOUS POLYMERIZATION:** NO

**HAZARDOUS DECOMPOSITION:** No Data Available

**INCOMPATIBLE MATERIALS:** May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc. May react with aluminum, acetaldehyde, chlorine and ethylene oxide.

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## 11. TOXICOLOGICAL INFORMATION

### ACUTE

**EYES:** Rabbit - irritating. Corneal opacity, roughened corneas, mild iritis and severe conjunctival irritation were observed during the first three days after treatment. All eyes appeared normal by 14 days.  
EPA FIFRA toxicity category - II.

**DERMAL LD<sub>50</sub>:** Rabbits = > 5.0 g/kg  
EPA FIFRA toxicity category - IV.  
**SKIN IRRITATION:** Rabbits - 24 hour Draize Score 0.9 - mild to slight irritation at 72 hours. EPA FIFRA toxicity category - IV.

**ORAL LD<sub>50</sub>:** Rats - male = 4.4 g/kg, female = 3.6 g/kg  
EPA FIFRA toxicity category - III.

**INHALATION LC<sub>50</sub>:** Rats - 1 hour vapor > 145 mg/liter, 1 hour aerosol > 57.5 mg/liter.  
EPA FIFRA toxicity category - IV.

**SENSITIZATION:** This material was not a skin sensitizer to Guinea pigs when

tested in the modified Buehler Sensitization Test.

## **CARCINOGENICITY:**

**CARCINOGENICITY COMMENTS:** EPA has classed acephate in category C - possible human carcinogen, based on the increased incidence of liver tumors observed in the high dose, 1000 ppm (37.5 mg/kg/dy), female mice in the lifetime feeding study. Acephate was not carcinogenic in the other female and male mouse dose levels or the rat lifetime feeding study.

**NEUROTOXICITY:** Based on the results of the chicken neurotoxicity studies, acephate has not demonstrated any potential to cause delayed neuropathy.

**TERATOGENICITY:** Acephate has not been demonstrated to cause birth defects

**REPRODUCTIVE TOXIN:** When male and female rats were fed acephate continuously for two generations through weaning of the third generation, animals in the mid and high-dose groups demonstrated compound-related effects on reproductive performance. The low-dose, 50 ppm (2.5 mg/kg/dy), was considered the no observable effect level (NOEL).

**MUTAGENICITY:** Acephate has demonstrated weak mutagenic potential in microbes or cultured cells, while results of in vivo studies indicate that it does not cause mutation in whole animals.

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## **12. ECOLOGICAL INFORMATION**

**ENVIRONMENTAL DATA:** No data available.

**ECOTOXICOLOGICAL INFORMATION:** This pesticide is toxic to birds. Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds.

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## **13. DISPOSAL CONSIDERATIONS**

**FOR LARGE SPILLS:** Material collected that cannot be reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures.

**PRODUCT DISPOSAL:** The Solaris Group is committed to responsible environmental practices and recommends that all of the product be used up, carefully following all label directions and precautions.

If necessary to dispose of partially filled product container, then securely wrap it in several layers of newspaper and discard in trash.

**EMPTY CONTAINER:** Do not reuse container. Rinse thoroughly before discarding.

in trash.

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## 14. TRANSPORT INFORMATION

### DOT (DEPARTMENT OF TRANSPORTATION)

**PROPER SHIPPING NAME:** Consumer Commodity

**PRIMARY HAZARD CLASS/DIVISION:** ORM-D

**UN/NA NUMBER:** NONE

**PACKING GROUP:** NO

**U.S. SURFACE FREIGHT CLASS:** NMFC NBR. 102120

### AIR (ICAO/IATA)

**PROPER SHIPPING NAME:** Consumer Commodity

**SPECIAL SHIPPING NOTES:** The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements

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## 15. REGULATORY INFORMATION

### UNITED STATES

#### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA				
ACUTE:	CHRONIC:	FIRE:	REACTIVITY:	PRESSURE
YES	YES	YES	NO	GENERATING: NO

**313 REPORTABLE INGREDIENTS:** ACEPHATE (CAS 30560-19-1). De Minimis Concentration for Section 313 is 1.0%

### TSCA (TOXIC SUBSTANCE CONTROL ACT)

**TSCA REGULATORY:** All non FIFRA regulated components are on the US EPA's TSCA Inventory List.

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## 16. OTHER INFORMATION

**HMIS CODES****FIRE: 3 HEALTH: 1 REACTIVITY: 0 PROTECTION: -****NFPA CODES****FIRE: 3 HEALTH: 1 REACTIVITY: 0 SPECIAL: -****APPROVAL DATE:** 02/01/1999**REVISION SUMMARY** Revision #: 1

This MSDS replaces the September 13, 1995 MSDS. Any changes in information are as follows:

In Section 1

Prepared By Date Prepared

In Section 3

Target Organs (text)

In Section 11

Carcinogenicity (text) Neurotoxicity (text) Teratology (text) Reproduction (text)

Mutagenicity (text) Sensitization (text)

**COMMENTS:** For additional information concerning this product, call the SOLARIS Groups Consumer Helpline at 800-225-2883.

**MANUFACTURER DISCLAIMER:** This Material Safety Data Sheet (MSDS) contains health, safety and environmental information for you and your employees. It does not replace the precautionary language, use directions, or the storage and disposal information found on the product label. Information contained in this MSDS will help you to prepare for emergency response and to meet community right-to-know, emergency response and reporting requirements under SARA Title III and many other laws. Emergency response agencies and health care providers will also find this additional information useful.

Use of this product is regulated by the U.S. Environmental Protection Agency (EPA) through the approved label copy. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

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